Scientists' Cliffs Association
PWSID 0040014
Annual Water Quality Consumer Confidence Report
July 2010

Introduction:

This Annual Consumer Confidence Report contains valuable information about the quality of drinking water provided to you by the central water system that serves the Scientists' Cliffs community and is operated by the Scientists' Cliffs Association. Please read this report carefully, as it contains vital information about your community water supply. This report was designed to comply with the requirements of the Safe Drinking Water Act (SDWA) of 1996, which is administered by the United States Environmental Protection Agency and is enforced by the Maryland Department of the Environment.

If you ever have any questions regarding the information supplied in this report, please do not hesitate to contact Wally Price, SCA Community Manager at 410-586-0602. Individuals that are interested in the opportunity to discuss in detail the regulations that effect drinking water quality and the operation of the water system may set up a meeting with the Water Operator/Water Superintendent Wally Price by calling the number above.

Water Source Information:

All of the water supplied to you as drinking water in Scientists' Cliffs is groundwater. The groundwater is pumped from any one of our four wells, which are supplied by either of two source aquifers. Two of our wells pump water from the Piney Point/Nanjemoy aquifer, which is generally located in our area at a depth of 275 to 400 feet. The other two wells in Scientists' Cliffs pump water from the Aquia Aquifer, which is generally located in our area at a depth of 500 to 600 feet.

Both of the two aquifers that provide our water supply are confined aquifers, which means, that they are less vulnerable to contamination than a surface water source. Both the Piney Point/Nanjemoy and Aquia aquifers are well known and documented by local geologists, and are commonly used as a water supply by much of the population of Southern Maryland. Recent studies by the Maryland Geologic Survey indicate that water pumped from the Aquia aquifer in Southern Maryland may be 10,000 to 15,000 years old! In other words, water pumped today from the Aquia aquifer last fell to the earth as a rain drop over 10,000 years ago

Definitions:

Some of the terms and abbreviations used in the attached table are defined by the United States Environmental Protection Agency as follows:

Maximum Contaminant Level (MCL) – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Variances and Exemptions – State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

*Table of **Detected Regulated** Contaminants:*

Contaminant (units)	MCL (mg/l)	MCLG	SCA Levels	Major Sources In Drinking Water	Health Effects Language
Arsenic	10 ug/l	0	ND ** #3 well (.0071 mg/l)	Erosion of natural deposits	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
Gross Beta	50 pCi/l *	0	13 pCi/l	Erosion of natural deposits	Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Fluoride	4	4	ND ***	Erosion of natural deposits	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.
Nitrate	10	10	1.0 mg/l	Runoff from fertilizer use; leaching from septic tanks, sewage; Erosion of natural deposits	Infants below the age of six months, who drink water containing nitrate in excess of the MCL, could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.

*EPA considers 50pCi/l to be the level of concern for beta particles.

**Wells #1, #2 and #4 Arsenic readings are non-detectible. Testing for Arsenic for well #3 remains quarterly, as a result of readings greater than 50% of the MCL.

*** Fluoride readings are non-detectable (ND)

There are over 70 other regulated contaminants that are tested for in our drinking water on a periodic basis. Some of these contaminants are tested for on a monthly basis, some on an annual basis, and some on a triennial basis or greater as specified by the Maryland Department of the Environment (MDE). However, none of these other contaminants have been detected in our water supply and are therefore not included in the table above. If you ever have any question about these test results, please contact Wally Price, SCA Community Manager and Water Superintendent at 410-586-0602.

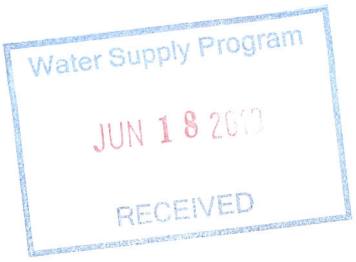
In addition to the regulated contaminates listed in the table above, our source water is periodically monitored by the Maryland Department of the Environment (MDE) for (the currently *unregulated* contaminate) Radon-222. This monitoring is being done by the State in anticipation of new federal regulations that will likely be established in the next few years. The most recent sampling by MDE for radon-222 was completed in July of 1998, and the results showed levels ranging from 140 to 235 pCi/l. Current indications are that the proposed MCL will likely be in the range of 300 to 3000 pCi/l.

Radon is a radioactive gas that you can't see, taste or smell. It is found all over the United States. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. For additional information, call your state radon program or call EPA's radon hotline at 800-SOS-RADON.

We also have water samples tested monthly for bacteriological contaminants. Another test periodically performed is to detect and monitor potential lead and copper in our drinking water system. We draw water samples from houses that are representative of the system and have tested for lead and copper.

"If present, elevated levels of lead can cause serious health problems, especially for pregnant women and small children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Scientists' Cliffs Association Water Superintendent is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes for drinking or cooking. If you are concerned about lead in your drinking water, you may wish to have your water tested.

Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the EPA Safe Drinking Water Hotline at 1-800-426-4791 or at http:/www.epa.gov/safewater/lead."



Educational Information:

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Your drinking water meets EPA's standard for arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Well #3 continues to be tested for arsenic as a result of levels consistently above 50% of the MCL. The other three wells have non-detectible arsenic readings. Results of all wells at SCA have always been below the MCL for arsenic.

"While your drinking water meets EPA's standards for arsenic, it does contain low levels of arsenic. The EPA's standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. EPA continues to research the health effects of low level arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems." (40 CFR 141.154(b)) The water system at Scientists' Cliffs Association does blend which lowers the overall levels of arsenic in the water system.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-comprised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDs or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

Sources of drinking water (both tap water and bottled water) generally include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

- ❖ Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

- ❖ Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

- ❖ Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Conclusion:

Last year, as in years past, your tap water met all EPA and state drinking water health standards. Scientists' Cliffs Association carefully protects its water supplies and we are proud to report that our system has never violated a Maximum Contaminant Level or any other water quality standard.